

**AMENDMENTS TO THE SPECIFICATION:**

Please delete the paragraph beginning at page 6, line 19 which starts "FIG. 8 is a plotted graph".

Replace the paragraphs beginning at page 6, line 23 with the following amended paragraphs:

FIG. [[9]] 8 is a plotted graph depicting the contour of the surface versus both the real and imaginary parts of  $\beta_2$ ;

FIG. [[10]] 9 is a plotted graph depicting the actual shear wavespeed and the estimated shear wavespeed versus the frequency with the real component;

FIG. [[11]] 10 is a plotted graph depicting the actual shear wavespeed and the estimated shear wavespeed versus the frequency with the imaginary component;

FIG. [[12]] 11 is a plotted graph depicting the actual shear modulus and the estimated shear modulus versus the frequency with the real component;

FIG. [[13]] 12 is a plotted graph depicting the actual shear modulus and the estimated shear modulus versus the frequency with the imaginary component;

FIG. [[14]] 13 is a plotted graph depicting the actual Young's modulus and the estimated Young's modulus versus the frequency with the real component;

FIG. [[15]] 14 is a plotted graph depicting the actual Young's modulus and the estimated Young's modulus versus the frequency with the imaginary component; and

FIG. [[16]] 15 is a plotted graph depicting the actual Poisson's ratio and the estimated Poisson's ratio versus the frequency.

Replace the paragraph beginning at page 28, line 6 with the following amended paragraph:

~~FIGS. FIG. 8 and 9 are plots~~ is a plot of the surface defined in equation (64) versus real and imaginary components of  $\beta_2$  at 1800 Hz. ~~FIG. 8 depicts a gray scale image of the magnitude versus the real part of  $\beta_2$  and FIG. [[9]] 8 depicts a contour plot of the surface versus both the real and imaginary parts of  $\beta_2$ . For both figures~~ the figure, there are six distinct local minima that are labeled in bold numbers. The seventh local minima corresponds to  $\beta_2 = 0$  which implies there is no shear wave propagation; a physically unrealizable condition at nonzero wavenumber. These six local minima are processed at a third measurement location according to equation (70). The results are listed in Table 1. Local minimum number 3 has the smallest residual value and corresponds to the shear wave propagation. The value for  $(\beta_2)_3$  is equal to  $61.3 + 5.9i$  compared to the actual value of  $\beta_2$  which is  $61.0 + 5.9i$ .

The small difference between the two values can be attributed to discretization of the surface ~~shown in FIG. 9.~~

Replace the paragraphs beginning at page 29, line 4 with the following amended paragraphs:

FIGS. 9 and 10 ~~and 11~~ are plots of the actual shear wavespeed (solid line) and the estimated shear wavespeed (o symbol) versus the frequency. FIG. ~~[[10]]~~ 9 depicts the real component and FIG. ~~[[11]]~~ 10 depicts the imaginary component. As in ~~FIGS.~~ FIG. 8 and 9, the small difference between the two values can be attributed to discretization of the surface.

FIGS. 11 and 12 ~~and 13~~ are plots of the actual shear modulus (solid line) and the estimated shear modulus (o symbol) versus the frequency. FIG. ~~[[12]]~~ 11 depicts the real component and FIG. ~~[[13]]~~ 12 depicts the imaginary component.

FIGS. 13 and 14 ~~and 15~~ are plots of the actual Young's modulus (solid line) and the estimated Young's modulus (o symbol) versus the frequency. FIG. ~~[[14]]~~ 13 depicts the real component and FIG. ~~[[15]]~~ 14 depicts the imaginary component. Finally, FIG. ~~[[16]]~~ 15 is a plot of the actual Poisson's ratio (solid line) and the estimated Poisson's ratio (o symbol) versus frequency. Because the numerical example is formulated using a Poisson's ratio that is strictly real, no imaginary component is shown in this plot. Imaginary values of Poisson's ratio are

possible and have been shown to theoretically exist. (See T. Pritz, "Frequency Dependencies of Complex Moduli and Complex Poisson's Ratio or Real Solid Materials," *Journal of Sound and Vibration*, Volume 214, Number 1, 1998, pp. 83-104).

**AMENDMENTS TO THE DRAWINGS:**

The attached sheets of drawing include changes to FIGS. 9-16, resulting from the cancellation of FIG. 8 originally filed.

Attachment: Replacement Sheets

Annotated Sheets Showing Changes